**U.S. Fish & Wildlife Service**

# News Release

*Pacific Islands External Affairs Office*

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## Endangered Baby Spiders Seen for the First Time in 30 Years

Amidst a dark, mud-lined lava tube in Kauai's Koloa Basin, researchers crawling on hands and knees are ecstatic about seeing baby Kauai cave wolf spiders or "spiderlings" for the first time in 30 years. For many people this is what nightmares are made of, but for scientists and researchers in Hawaii, seeing these rare spiderlings with a known population of perhaps fewer than 30 individuals is a lifetime dream come true.

"This unique eyeless wolf spider is the most remarkable cave species in Hawaii," said Dr. Frank Howarth, an entomologist from Bishop Museum considered by many to be the leading expert on the Kauai cave wolf spider. "Besides being perfectly adapted to life in the dark lava tubes of Kauai, like their big-eyed surface relatives, cave wolf spiders share a special adaptation – their spiderlings have a row of comb-like teeth on their claws that perfectly match the spaces on the multi-branched hairs found on the mother's back. This match allows the spiderlings' to hold on for safe transport and protection by the mother."

In late November 2005, U.S. Fish and Wildlife Service biologist Gordon Smith and University of Hawaii graduate student Wendy McDowell – accompanied by representatives from the private lands that harbor this rare spider – conducted cave surveys of the spider's habitat. The team observed two hatched and two unhatched (still in the egg case) spiderlings. Biologists point out that there may have been more spiderlings present in areas inaccessible to the team. The Service has been conducting regular cave surveys of the spider and another endangered species, the Kauai cave amphipod, for the past 10 years.

The biologists survey all accessible spider habitats, identify immature and adult spiders, note the quality and condition of the habitat and determine the sex of the adults. Since 1996, biologists have occasionally seen spiders with egg cases but they had never seen spiderlings until that fateful day in November.

Dr. Howarth and McDowell suggest that this very special sighting may be attributed to several factors such as regular surveys for the past 10 years, an increase in the number of Kauai cave amphipods – believed to be a primary food source for the spiders, improved surface habitat providing more food for the amphipods, or just seasonal variability. The Service hopes that McDowell's research will provide a better understanding of the spider's life history and its habitat needs.

Little is known about this rare spider, first discovered in 1971, which is found only in the lava tubes and cave-bearing rock in Kauai's Koloa Basin. The species has been documented in five different caves within the basin, but has only been observed regularly in one of these caves.

"The Service has worked closely with the private landowners whose property harbors spider habitat," said Lorena Wada, fish and wildlife biologist with the U.S. Fish and Wildlife Service's Pacific Islands Fish and Wildlife Office. "These private landowners have been instrumental in protecting critical habitat, permitting scientific researchers' access to these highly sensitive habitats, and enhancing public knowledge of and support for protecting these species."

The primary threat to the Kauai cave wolf spider is human-caused destruction or degradation to their highly sensitive cave habitat. To protect the cave systems, the Service is working with private landowners to control human entry, prevent the destruction of native plant communities above the cave systems, prevent the introduction of nonnative predators and competitors and control those already present.

Protecting the cave itself is important, but proper management of the habitat above the caves is essential to encourage the growth of appropriate plants whose roots provide food and debris for the cave amphipod and to increase the relative humidity in caves. Both these cave-dwelling species appear to require high humidity, perhaps as much as 100 percent.

The Kauai cave wolf spider is a mid-size (0.50 to 0.75-inch) hunting spider that has completely lost its eyes as part of its adaptation to life in lava tubes. Instead of building webs, it chases and grabs its prey or may utilize sit-and-wait ambush tactics. Unlike most wolf spiders that produce 100 to 300 spiderlings per clutch, the Kauai cave wolf spider is believed to produce fewer than 30 spiderlings per clutch. Newly hatched spiderlings are unusually large and are carried on the back of the female for only a few days.

For more information about Hawaii's endangered and threatened species, visit the Service's website at http://www.fws.gov/pacificislands/ .



**Note to Editors**: Images are available by calling Ken Foote at 808 792 9535.

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